ABSTRACT OF THE DISCLOSURE

An object conveying system and conveying method for conveying objects such as workpieces by using two robots. A first robot holds and positions a basket, in which workpieces are randomly stacked, at a predetermined position. A second robot is mounted with a visual sensor for determining a position and/or an orientation of each workpiece, and holds a workpiece, based on the determined workpiece position and/or orientation. The second robot takes out the workpiece from the basket and delivers it to a processing machine. The basket held by the first robot does not require a position for placement, and hence workpieces can be delivered to the processing machine at a workpiece feed position above other equipment, so that object conveyance using robot can be easily realized even in a narrow space crowded with various equipment.